



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,368	04/18/2001	Naosato Taniguchi	2369.12215	6893

5514 7590 04/02/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

CHANG, AUDREY Y

ART UNIT PAPER NUMBER

2872

DATE MAILED: 04/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,368

Applicant(s)

TANIGUCHI ET AL.

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 6-12, 14, 26 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 13, 15-25, 27-33 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2872

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species A (claims 1-5, 13-25, 27-33 and 35-38) in Paper No. 8 is acknowledged.
2. Applicant is respectfully noted that *claim 14* reads on Figure 23 and should belong to the non-elected species D.
3. Claims 6-12, 14, 26, and 34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected elected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.
4. This Office Action is also in response to applicant's amendment filed on January 21, 2003, which has been entered as paper number 8.
5. By this amendment, the applicant has amended claims 1-4, 18-23, and 29-31. Claims 1-5, 13, 15-25, 27-33, and 35-38 remain pending in this application.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 2-3, 13, 15, 17, 18-19, 29-31, 37 and 38 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "stripe pixels :for" and the phrase "changing its o:der" recited in recited in claim 2 are confusing and in error. The phrase "a second synthesized parallax image that is an *interpolation* image of said first synthesized parallax image" recited in claim 2, is confusing and indefinite it is not clear how could the second synthesized image be the "interpolation image" of the first synthesized image.

Art Unit: 2872

“Interpolation” means “insertion” in the dictionary. It is not clear why would the second synthesized image is the insertion of the first. Please explain what feature is referred here.

The phrase “or each scan line” recited in claim 3 is confusing and indefinite since it is not clear what is considered here to be the scan line. It is not clear if this is referred to the display device or what.

The phrase “a 2D image (an image without parallax) is displayed on a part or of the entirety of said image displaying device” recited in claim 13 is indefinite and in error, since if the 2D image without parallax information is displayed on the **entirety** of the image displaying device then *no stereoscopic* image display will be possible.

The phrase “a crossing point of a multiplicity of straight lines that connect ... and the center in the horizontal direction of each optical element forming said first optical system”, the phrase “the center in the horizontal direction ... second optical system”, and the phrase “the center in the horizontal direction of pixels” recited in claim 15 are confusing and indefinite. The “crossing point” is better to be referred as “*intersection point*” and there tend to be *more than one* crossing points or intersection points. The multiplicity of straight lines is understood (in light of Figure 3) to be the *lines* connecting the left pupil, the *respective centers* of *each* optical element in the first optical system, the *respective centers* of *each* optical element in the second optical system and the *respective centers* of a pixel in the image displaying device, and the *lines* connecting the *right pupil*, the *respective centers* of each optical element in the first optical system, the *respective centers* of *each* optical element of the second optical system and the *respective centers* of the each pixel in the image displaying device, *respectively*, wherein the optical elements in the first and second optical system forming one period in the horizontal direction to define the respective centers. It is also not clear what is considered to be “*the center in the horizontal direction*”. The applicant is respectfully reminded that the *center* of the element is a point that does not have a direction.

Art Unit: 2872

The phrase "crossing face" and the phrase "among faces" that recited in claims 18 and 19 are confusing and indefinite since it is not clear what are these faces.

The phrase "are capable of changing over" recited in claim 29 is confusing and indefinite since it is not clear what is changing over.

Claim 31 is confusing and indefinite it is not clear what is the scope of the claim. It is not clear what is considered to be "forming an image in the vertical direction". Does it mean the optical system has converging power in vertical direction or in horizontal direction? What is considered to be the direction of the image? Also the phrase "a focal point position and the position of said plane ... coincide with each other in the horizontal direction" is completely confusing and indefinite. It is not clear what is coincided here, the *position* of the plane or the plane itself with the focal point or with the focal point *position*? It is not clear how could a point (focal point) be coincided with a plane in *the horizontal direction*? The claim does not make any sense.

Clarifications are required.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. **Claims 1-5, 13, 15-25, 27-28, 29-33, and 35-38** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over *claims 1-16, 17-22* of U.S. Patent No.

Art Unit: 2872

(Patent number no assigned yet) application number **09/772,989** in view of the patent issued to Mashitani et al (PN. 5,663,831).

The instant application and the cited patent (09/772,989) both disclose a stereoscopic image display that is comprised of an image display device for displaying synthesized images, a second optical system for directing and forming the images from the display device on light transmitting sections and light shielding second formed within an optical modulator or on a mask (having opening and shielding regions for passing or shielding the image light), and a first optical system for collecting the image light from the light transmitting sections to an observation surface, (please see Figure 1 of the instant application and Figure 1 of the cited patent). The only difference is that the instant application recites the light transmitting sections and the light shielding sections are formed on a modulator. However using modulator as a mask to form patterned light transmitting and light shielding sections is quite well known in the art as demonstrated by the teachings of **Mashitani et al** wherein a parallax barrier (50, Figure 7) having mask pattern of slits (5a) (i.e. light transmitting sections) and barriers (i.e. light shielding sections) for use in a stereoscopic image display system is constructed by using a liquid crystal element (known type of optical modulator) (50, Figure 7, column 5, lines 56-67). It would then have been obvious to one skilled in the art to modify the mask of the cited patent (09/772,989) by forming the mask pattern on an optical modulator such as liquid crystal element for the benefit of providing electronic control to the mask pattern and more easily manipulating and changing the mask pattern as desired. The instant application and the cited patent (09/772,989) therefore are not patentably distinct from each other.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patents issued to Lo et al (PN. 4,132,468), and to Ezra et al (PN. 5,703,717) each teaches a stereoscopic image display system using lenticular lenses.

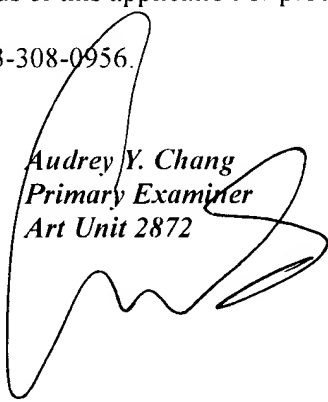
Art Unit: 2872

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872



A. Chang, Ph.D.
March 28, 2003